A Healthy Start for Canadian Children – Does Universal Health Care Meet The Challenge?

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The equity challenge for universal health care policies

In the post-war era it was assumed that health care inequalities due to income would disappear, or at least be significantly diminished due to the introduction of universal health care insurance in industrial countries. However, inequalities within countries continue to persist. These inequalities tend to be due to place of residence or socio-economic class.

Though the health status of Canadians is generally high, variations in health outcomes due to income have been observed. The life expectancy at birth for the lowest quintile is three and a half years less than that of the highest. Those with low incomes were also found to have the lowest health levels as measured by the Health Status Index.

A key reason cited for the importance of universal provision of health care is to ensure children have a healthy start in life. Are the advantages of a healthy start lost during the life course or, are inequities already established in childhood? The National Longitudinal Survey of Children and Youth allows us to test these questions.

Variations in the health outcomes of children due to income or region

There have been considerable gains in health outcomes and an evening out of the outcomes since the introduction of universal health care in Canada. However some differences persist due to income. The percentage of children born with low birth weight was higher in low income neighbourhoods than in high income neighbourhoods. According to the National Population Health Survey, 89 per cent of children under the age of 12 were reported to be in very good health in 1996/1997. However, the proportion of children in excellent or very good health was greater in the highest income group compared with the lowest income group.

Regional variations are also understandable when each Canadian province operates its own health system, however, these variations should be minimal in a universal system. Some differences were evident. For example, infant mortality, measured as the number of deaths among children less than one year old per 1000 live births, ranged in 1993 from a high of 9.12 in Prince Edward Island to a low of 5.73 in Quebec.

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Potential reasons for variations

One possible reason for health outcome variations is differences in access due to place of residence or income. It is for this reason accessibility is one of the five principles enshrined in the Canada Health Act. An Ekos survey in 1996 showed that 90 per cent of Canadians believed that equality of access is important.
It can be argued that the lack of access results in poorer health outcomes because of delays in treatment and lack of preventive care. The poor may be inhibited because of associated costs such as transportation and prescription drugs. However the links between health outcomes and access are not always clear. Is heavy use of health care services an indicator of good or poor health? There appear to be variations related to age. Infants and toddlers had contact with a general practitioner or pediatrician an average of 4.8 times in the 12 months before compared to 2.8 times for children aged 4 to 11 years. The higher use for young children may be associated with the regimen of immunization.

Does inequality itself have an impact on societal health outcomes?

Countries with the highest expenditures do not necessarily have the best health outcomes. This paradox has been studies at both national and international levels. Wilkinson, in his book Unhealthy Societies – The Afflictions of Inequality proposes a theory based, not only on individual determinants but also on societal factors. He has shown that health outcomes are closely associated with income inequalities within societies. His theory suggests that such inequalities weaken the social fabric which in turn damages health outcomes, while egalitarian societies are more socially cohesive and healthy. According to his research, Canada has lower health outcomes in terms of life expectancies compared to more egalitarian societies such as Japan, Netherlands and Sweden but that it does better than countries with high income inequality such as the United States, West Germany and Australia. Certainly, social cohesion of communities is an important factor for child development.

Research questions

The National Longitudinal Survey of Children and Youth has a wealth of data, which allows us to examine the health outcomes of children in relation to the socio-economic status of their families as well as the place of residence. It is also possible to study if there are variations in access. The research questions for this study are:

1. Are there variations in the way health services are used by children in Canada? Does this pattern of use vary by socio-economic status or region of residence?

   If universal access to health care exists, there will be no appreciable variation in the way health services are used by children in Canada. If there are regional variations, it would indicate that differences in provincial health services put the principle of access at risk. Differences in use due to socio-economic class would suggest that the goals of access are not completely met.

2. Do health outcomes differ among children in Canada? Are these differences due to socio-economic status or region of residence?

   If health outcomes vary by region, it would be evidence that the effectiveness of provincial health programs is not uniform. Socio-economic differences in health outcomes would again suggest that the benefits of universal health care are not equally available to the poor.

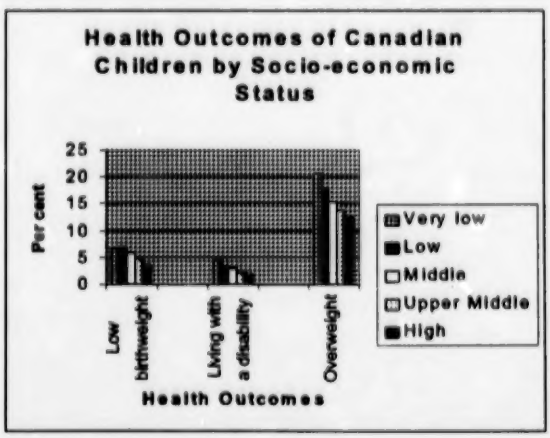
Access was measured by the use or non-use as well as the frequency of use of health care professionals. A global and several specific health outcomes were studies. The global measure was the Health Utility Index based on overall functional health. The specific outcomes were low birth weight, living with a disability, height, tendency to overweight and Motor and Social Development Score. Key explanatory variables were the socio-economic status and five regions – Atlantic Provinces, Quebec, Ontario, Prairie Provinces and British Columbia. Two measures of societal inequality were also included: the Gini co-efficient which measures inequality across the whole population of the region and incidence of low income in the area of residence.

What did we find?

There were statistically significant differences in the number of low birthweight babies due to socio-economic status and region.

There were 394 low birthweight babies in total. Of the babies born to families of very low socio-economic status, 6.8 per cent of babies were of low weight compared to only 3.7 per cent of the babies born to families of high socio-economic status. (See Figure 1.) The difference in the percentage of low birthweight babies ranged from a high of 6.1 per cent in British Columbia to a low of 5.1 per cent in Ontario.

Figure 1.



The differences in the percentage of children living with a disability in regions were not statistically significant, however, the differences among socio-economic groups were significant.

As seen in Figure 1, the percentage of children living in low socio-economic status was higher than for children of higher socio-economic status. Of the 639 childern living with a disability, 4.4 per cent lived in families with very low socio-economic compared to 1.9 per cent in families of high socio-economic status. Though there were differences were noted among regions, they were not statistically significant.

The differences in the percentages of children with a tendency to overweight among regions and socio-economic status were both statistically significant.

The differences in the percentages of children with a tendency to overweight by socio-economic status can be clearly seen in Figure 1. 467 children of high socio-economic status had this tendency compared 491 children of low socio-economic status.

The variations in the Motor-Social Development Score of children due to socio-economic status and region were statistically significant.

This score is calculated for children 0-47 months. It is a standardized score with a mean of 100 and a standard deviation of 15. The means of the scores for the very low, low and middle socio-economic status fell just below the standardized mean of 100 while the means for the upper middle and the high socio-economic status fell just above it. In the case of regions, the means for children in Quebec and the Prairie region were just below the standardized mean of 100 while the means of the other provinces was above it.

Explaining the variations

Analysis showed that the differences found were statistically significant, that is that the differences were not due to chance but were real. In order to further understand the variations due to socio-economic status and place of residence, it was necessary to test the relative contributions of many other factors as well, such as sex, single parent households and number of siblings.

Measures of access

Two measures of access were used: the use of health care professionals and the frequency of the use of their services.

The use of health care professionals

The odds of girls being a non-user of health services were 1.09 times higher than those of boys. Children with a long term conditions were 40% more likely to use the services of health care professionals. The probability that children of higher socio-economic status would use such services was much higher than for children of low socio-

economic status There was evidence to suggest that the explanations were more complex than the ones studied.

The frequency of use of health care professionals

The frequency of use of health care professionals such as pediatricians, family doctor or public health nurse over the past 12 months varied due to socio-economic status. As could be expected, the presence of a long term condition explained most of the variation. Age and number of siblings were negatively related. Though socio-economic status was significant, its contribution to the variation was small relative to other factors. Children living in the Atlantic region had a significantly lower chance of using a health care professional than children in other regions. Analysis showed that other factors that were not considered probably explained a great part of the variation.

Health outcomes

A global measure, The Health Utility Index and a specific measure, height were used as outcomes. The relative impact of several factors such as socio-economic status, region, inequality, age, number of siblings, single parent households and sex of child were examined.

The Health Utility Index

The factors studied were not sufficient to fully explain the differences in the Health Utility Index of children. However, indications were that the higher the socio-economic status, the higher the health utility index. Age and number of siblings and one-parent households were negatively related. Only the Atlantic region varied significantly from the other regions. When measures of inequality were included, the Gini co-efficient was significantly related to the differences, however, it did not increase the explanation of the differences in the Health Utility Index. The incidence of low income was also statistically significant in addition to sex, socio-economic status, age and number of parents but again, they jointly only explained a very small proportion of the variation.

Height

The factors studies explained a high proportion of the differences in height. As could be expected age explained most of the variation in height. For every year of age, 7 cms of height was added. Socio-economic status, sex and the number of siblings were also significant. The number of siblings was negatively related indicating that height was affected when a child had siblings. Regions were not significantly related to the variance. When the Gini co-efficient for each region was added as a measure of inequality, it was not statistically significant, suggesting that it did not affect the variations in height. However, when the incidence of low income was used as measure of inequality, it was statistically significant, however, it did not explain much of the variation compared to the other factors.

Importance of universal health care policies for children

A major test of universal health care is to ensure that health outcomes are equally distributed in terms of both place of residence and socio-economic status. To this could be added, the notion that it should also ensure good health throughout the life course. It has always been believed that it is important for children to have a healthy start because deficits in the formative years cannot always be made up, especially in terms of brain development. However there is little research to show how early in life differences in health outcomes due to socio-economic status appear and how serious they are for childhood and later life.

In general, differences found due to socio-economic status and in a few cases, due to region were statistically significant, meaning that they were real and not due to chance. However, the absolute differences were small. So there is evidence to suggest that universal health policies do correct for potential differences that would result in differences due to socio-economic status and region. However, if the policies were not universal, the differences could be larger.

According to this study, universal heath care appears to produce relatively even results when access was measured by the use or non-use of health professionals and the frequency of the use of such services. It should be noted that higher use of health care professionals in early childhood may, in fact, result in later health outcome gains because of immunization and early detection of problems.

The examination of health outcomes showed that differences exist due to socio-economic status but they do not appear to be major. Results suggest that families with low socio-economic status may be under stress and their situation should be monitored.

The results were reassuring with regard to regional variations. Despite differences in the way provincial health plans are run, there appears to be a fair distribution of health outcomes.

Future research should examine if the relatively small differences in early childhood due to socio-economic status are magnified during adolescence. The role of deficits in childhood in low health outcomes over the lifetime should also be studied. Though the deficits may not be measurable early in life, they be cumulative and have a significant impact later in life.

Canada has high health outcomes in general. However, these outcomes can be easily jeopardized during health care reform so it is important to monitor health outcomes of children. If health outcomes are poorly distributed among children, it is likely that the differences that already exist among adults would be increased.